

Amendment to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

1-49. (canceled)

50. (original) A vector comprising: (a) one or more components from a first plant virus (b) a partial or complete 3' untranslated region from an RNA of a second plant virus.

51. (original) The vector of claim 50, wherein the 3' untranslated region facilitates systemic spread of the virus.

52. (original) The vector of claim 51, wherein the 3' untranslated region comprises a recognition site for complex formation with coat protein.

53. (original) The vector of claim 50, wherein the second plant virus is a bromovirus.

54. (original) The vector of claim 50, wherein the second plant virus is an ilarvirus.

55. (original) The vector of claim 50, wherein the second plant virus is an alfamovirus.

56. (original) The vector of claim 50, wherein the second plant virus is alfalfa mosaic virus.

57. (original) The vector of claim 50, wherein the second plant virus is a bromovirus and the 3' untranslated region comprises at least a portion of an RNA3 untranslated region.

58. (original) The vector of claim 50, wherein the second plant virus is an ilarvirus and the 3' untranslated region comprises at least a portion of an RNA3 untranslated region.

59. (original) The vector of claim 50, wherein the second plant virus is an alfamovirus and the 3' untranslated region comprises at least a portion of an RNA3 untranslated region.

60. (original) The vector of claim 50, wherein the second plant virus is alfalfa mosaic virus and the 3' untranslated region comprises at least a portion of an RNA3 untranslated region.

61. (original) The vector of claim 60, wherein the 3' untranslated region comprises at least nucleotides 1859-1969 of the alfalfa mosaic virus genome.

62. (original) The vector of claim 61, wherein the 3' untranslated region further comprises at least a portion of nucleotides 1970-2037 of the alfalfa mosaic virus genome.

63. (original) The vector of claim 50, wherein the first plant virus is a tobamovirus

64. (original) The vector of claim 50, wherein the first plant virus is tobacco mosaic virus.

65. (original) The vector of claim 50, wherein the first plant virus is tobacco mosaic virus and the second plant virus is alfalfa mosaic virus.

66. (original) The vector of claim 50, wherein the vector further comprises at least a portion of a 3' untranslated region of an RNA of the first plant virus, or a complement thereof.

67. (original) The vector of claim 66, wherein the first plant virus is tobacco mosaic virus and the 3' untranslated region comprises nucleotides 6192 to 6395 of TMV.

68. (original) The vector of claim 50, wherein the vector is in DNA form.

69. (original) The vector of claim 50, wherein the vector is in RNA form.

70-81. (canceled)

82. (new) The vector of claim 50, wherein the vector is not capable of moving systemically in a plant.

83. (new) The vector of claim 50, wherein the vector is not capable of moving from cell to cell in a plant.

84. (new) The vector of claim 50, wherein the vector comprises a gene encoding a replicase protein.

85. (new) The vector of claim 50, wherein the component from the first virus is selected from the group consisting of: a promoter, a coat protein coding component, a movement protein coding component, and a replicase coding component.

86. (new) The vector of claim 50, further comprising a polynucleotide of interest.

87. (new) The vector of claim 86, wherein the polynucleotide of interest encodes a pharmaceutical protein of interest.

88. (new) A method of expressing a polynucleotide of interest comprising steps of:

- (a) introducing the vector of claim 87 into a plant or plant cell;
- (b) maintaining the plant or plant cell under conditions and for a time sufficient that the polynucleotide is expressed in at least some plant cells.

89. (new) The method of claim 88, wherein the vector lacks a functional coat protein encoding component; wherein the method comprises steps of:

- (c) introducing a second vector into the plant or plant cell, wherein the second vector includes a functional coat protein gene;
- (d) maintaining the plant under conditions and for a time sufficient to allow the second vector to complement the first vector, so that the first vector moves systemically in the plant; and
- (e) maintaining the plant under conditions and for a time sufficient that the polynucleotide is expressed in at least some plant cells.

90. (new) The method of claim 89, wherein the second vector comprises a polynucleotide of interest that encodes a pharmaceutical protein of interest.

91. (new) The method of claim 89, wherein the first or second vector, or both, comprises a gene

that encodes a replicase protein.

92. (new) The method of claim 88, wherein the method comprises steps of:

(c) introducing a second vector into the plant or plant cell, wherein the first vector, the second vector, or both, comprises a gene that encodes a replicase protein;

(d) maintaining the plant or plant cell under conditions and for a time sufficient that the polynucleotide is expressed in at least some plant cells.

93. (new) The method of claim 92, wherein the second vector comprises a polynucleotide of interest.

94. (new) The method of claim 93, wherein the first and second polypeptides are polypeptide chains of a multimeric protein.

95. (new) The method of claim 93, wherein the first and second polypeptides encode proteins of pharmaceutical interest.

96. (new) A producer vector comprising (a) one or more components of a plant virus; and (b) a polynucleotide of interest, wherein the vector is defective for cell-to-cell movement or systemic movement, and wherein the vector comprises at least one polynucleotide encoding a replicase protein of a plant virus and comprises sufficient non-coding portions to allow self-replication.

97. (new) The producer vector of claim 96, wherein the vector is defective for both cell-to-cell movement and systemic movement.

98. (new) A method of expressing a polynucleotide of interest comprising:

(a) introducing the vector of claim 97 into a plant or plant cell;

(b) maintaining the plant cell or plant cell under conditions and for a time sufficient that the polynucleotide is expressed.

99. (new) The method of claim 98, wherein the polynucleotide encodes a pharmaceutical protein of interest.

100. (new) The method of claim 98, wherein the method comprises steps of:

(c) introducing a second vector into the plant or plant cell, wherein the second vector, or both, comprises a gene that encodes a replicase protein;

(d) maintaining the plant or plant cell under conditions and for a time sufficient that the polynucleotide is expressed in at least some plant cells.

101. (new) The method of claim 100, wherein the second vector comprises a polynucleotide of interest, the method comprising steps of:

(e) maintaining the plant or plant cell under conditions and for a time sufficient that the polynucleotide of the second vector is expressed in at least some plant cells.

102. (new) The method of claim 101, wherein the second vector comprises a gene that encodes a replicase protein.

103. (new) The method of claim 100, wherein the first and second polypeptides are polypeptide chains of a multimeric protein.

104. (new) The method of claim 103, wherein the first and second polypeptides encode proteins of pharmaceutical interest.

105. (new) The producer vector of claim 96, wherein the polynucleotide of interest encodes a pharmaceutical protein of interest.

106. (new) A method of expressing a polynucleotide of interest comprising:

(a) introducing the vector of claim 96 into a plant cell;

(b) maintaining the plant cell under conditions and for a time sufficient that the polynucleotide is expressed.